UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
09/133,766	08/12/98	HELM	HELM-ET-ALPC

EXAMINER: R

HM22/1102

THOMAS M GAIGANO
GALGANO & BURKE
300 RABRO DRIVE SUITE 135
HAUPPAUGE NY 11788

ART UNIT: 1644 | PAPER NUMBER: 12

DATE MAILED: 11/02/00

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 16-24, 31-33 is/are pending in the application.
Of the above, claim(s) 31 is/are withdrawn from consideration.
☐ Claim(s) _____ is/are allowed.
☒ Claim(s) 16-24, 32, 33 is/are rejected.
☒ Claim(s) _____ is/are objected to.
☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
☐ The specification is objected to by the Examiner.
☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.
☐ received in Application No. (Series Code/Serial Number) _____.
☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of Reference Cited, PTO-892
☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
☐ Interview Summary, PTO-413
☐ Notice of Draftperson's Patent Drawing Review, PTO-948
☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

1. Claims 16-24,32,33 are under consideration.

2. Regarding applicants request for an interview, an interview has been scheduled for December 6, 2000.

RESPONSE TO APPLICANTS ARGUMENTS

3. Regarding priority with regards to the application of prior art, there is no disclosure of the inventions of claims 16 and 17 that recite "potential irritancy" in foreign priority document GB 9224956.4. Regarding claims 17 and 18, there is no disclosure in foreign priority document GB 9224956.4 of the method of claim 17 using "cell line which is a secretor of mast cell or basophil lineage and which is transfected with a moiety capable of binding human IgE" or using a "high-secretor variant". Regarding applicants comments, page 6 of GB 9224956.4 does not disclose the method which recites the limitation "cell line which is a secretor of mast cell or basophil lineage and which is transfected with a moiety capable of binding human IgE" or using a "high-secretor variant". Foreign priority document GB 9224956.4 does disclose the method of claim 19. Regarding applicants comments about page 3 of GB 9224956.4, said page does not disclose the claimed method (eg. it is drawn to a method for determine the allergic status of an individual). There is also no disclosure in foreign priority document GB 9224956.4 of the method 17 which uses a "sensitizer agent". Foreign priority document GB 9224956.4 does disclose the use of human IgE in said method. There is no disclosure in foreign priority document GB 9224956.4 of the methods of claims 32 or 33.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 17,33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (J. Clin. Immunoassay) for the reasons elaborated in the previous Office Action. Applicants arguments have been considered and deemed not persuasive.

Wilson et al. teach the RBL-2H3 cell line transfected with the α chain of the human FcεR1 (see Table 1), which is a "secretor variant" of untransfected RBL-2H3 cell line, in that the untransfected RBL-2H3 does not respond in a secretory manner to human IgE (see page 91, column 2, last paragraph). Wilson et al. teach a test allergen (eg. see Figures 1-3). Wilson et al. teach a means to determine the absence or presence of an immune response (see abstract). Wilson et al. teach the use of a radioactive marker (eg. tritiated 5HT) to measure the immune response of allergen challenged IgE sensitized RBL-2H3 cell line transfected with the α chain of the human FcεR1. Wilson et al. do not teach the claimed method. Wilson et al. teach that "following sensitization with hIgE or anti-hFcεR1α antibody, transfected clones support the release of mast cell mediators such as 5-hydroxytryptamine and histamine upon challenge with antigen or cross linking antibody."(page 240, column 2). A routineer would have used the aforementioned method to screen for allergenicity of a substance because Wilson et al. teach that sensitized transfected clones support the release of mast cell mediators such as 5-hydroxytryptamine and histamine upon challenge with allergen antigen. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have created the claimed invention because Wilson et al. teach the RBL-2H3 cell line transfected with the α chain of the human FcεR1 (see Table 1), which is a "secretor variant" of untransfected RBL-2H3 cell and the use of said cell line to study allergic sensitization and a routineer would have used the aforementioned method to screen for allergenicity of a substance because Wilson et al. teach that sensitized transfected clones support the release of mast cell mediators such as 5-hydroxytryptamine and histamine upon challenge with allergen antigen. One of ordinary skill in the art would have been motivated to do the aforementioned because Wilson et al. teach that "following sensitization with hIgE or anti-hFcεR1α antibody, transfected clones support the release of mast cell mediators such as 5-hydroxytryptamine and histamine upon challenge with antigen or cross linking antibody."(page 240, column 2).

Regarding applicants arguments, there is no disclosure of the inventions of claims 17,33 in foreign priority document GB 9224956.4 for the reasons elaborated in the previous paragraph.

6. Claims 16-24,32,33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cantor et al. (US Patent 4,559,310) in view of Gilfillan et al., Levi-Schaffer et al., Bochner et al., Komisar et al. and Benyon et al. Applicants arguments have been considered and deemed not persuasive.

Cantor et al. teach methods for the determining the allergic status of an individual that utilize mast cell lines. Cantor et al. teach that mediators are released by mast cells after sensitization to an allergen and exposure to an allergen (see Abstract). Cantor et al, do not teach that the mast cell line is a "secretor variant". Cantor et al. teach that the response of the mast cell can be measured by assaying the release of secreted mediators such as histamine, which are measured using immunoassays including radioimmunoassays (eg. which would utilize radiolabelled histamine, see column 9). A routineer would have used any art known immunoassay (eg. ELISA using chromogen) to measure the release of mast cell mediators. A routineer would measured any mediator which the art recognized as being produced by mast cells such as arachadonic acid. Gilfillan et al. teach the RBL-2H3 cell line transfected with the α chain of the human FcεR1 (see Table 1), which is a "secretor variant" of untransfected RBL-2H3 cell line, in that the untransfected RBL-2H3 does not respond in a secretory manner to human IgE (see page 91, column 2, last paragraph). Gilfillan et al. teach that RBL-2H3 cell line transfected with the α chain of the human FcεR1 can be sensitized via exposure to human IgE (see page 2447, column 2). Gilfillan et al. teach that RBL-2H3 cell line transfected with the α chain of the human FcεR1 mediates all of the signal transduction events mediated by the untransfected RBL-2H3 cell when the untransfected cell line is exposed to rat IgE. Thus, Gilfillan et al. establish that the RBL-2H3 cell line transfected with the α chain of the human FcεR1 is functionally active with regards to the ability of said cell line to mediate human IgE/human FcεR1 interaction mediated responses. Cantor et al. teach the desirability of using mast cells derived from the species to be tested in assays for determining allergic sensitivity. A routineer would have used the RBL-2H3 cell line transfected with the α chain of the human FcεR1 in the methods taught by Cantor et al. as a convenient source of human IgE reactive mast cells. Levi-Schaffer et al. teach that mast cells activation results in the release of mediators that cause the signs and symptoms of the allergic

response (see page 308). Levi-Schaffer et al. teach that mast cells respond to IgE dependent or IgE-independent activators (see page 308)). A routineer would have used the aforementioned methods in the absence of a sensitizing agent to screen for allergenicity of a substance because Levi-Schaffer et al. teach that mast cell activation results in the release of mediators that cause the signs and symptoms of the allergic response (see page 308) and that mast cells respond to IgE-independent activators . In addition, Bochner et al. teach that allergens that stimulate the release of mediators from mast cells/basophils in an IgE independent manner were known in the art (eg. see Table 1 and page 1786, first column, first incomplete paragraph). Benyon et al. teach an immunoassay wherein release of mediators by mast cells is measured in response to a variety of different nonIgE dependent agents (eg. see abstract, section 3 and Figure 2). Komisar et al. teach that RBL-2H3 cells release mediators in response to challenge with the nonIgE dependent agent SEB. Thus, Komisar et al. and Benyon et al. teach assays wherein mast cells are used to detect agents that cause nonIgE mediated release of mediators from mast cells. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have created the instant inventions because Cantor et al. teach methods for the determining the allergic status of an individual that utilize mast cell lines, while Gilfillan et al. teach that RBL-2H3 cell line transfected with the α chain of the human FcεR1 can be sensitized via exposure to human IgE (see page 2447, column 2) and Levi-Schaffer et al. and Bochner et al. teach that mast cell activation results in the release of mediators that cause the signs and symptoms of the allergic response (see page 308) and that mast cells respond to IgE dependent or IgE-independent activators, while Komisar et al. and Benyon et al. teach assays wherein mast cells are used to detect agents that cause nonIgE mediated release of mediators from mast cells. One of ordinary skill in the art would have been motivated to do the aforementioned because Levi-Schaffer et al. and Bochner et al. teach that mast cell activation results in the release of mediators that cause the signs and symptoms of the allergic response, thus indicating that the antigen which causes mast cell activation is an allergen and because Levi-Schaffer et al. teach that mast cells respond to IgE dependent or IgE-independent activators. In addition, Komisar et al. and Benyon et al. teach assays wherein mast cells are used to detect agents that cause nonIgE mediated release of mediators from mast cells.

Regarding applicants comments, claims 17 and 33 encompass assays which use IgE for the testing of IgE dependent allergens. Regarding applicants comments, Komisar et al. and Benyon et al. both teach assays wherein mast cells are used to detect agents that cause nonIgE mediated

release of mediators from mast cells. Benyon et al. teach use of human mast cells while Komisar et al. teach use of the rodent mast cell line RBL-2H3. Thus, the Benyon et al. and Komisar et al. references indicate that mast cells from a variety of different species can used to assay for nonIgE mediated release of mediators from mast cells.

7. Claim 18 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no support in the specification as originally filed for the claimed invention which recites "which when exposed to a preselected substance results in at least 3-45% mediator release". Regarding applicants comments about the specification, page 12, "3-45% mediator release" is disclosed in said passage of the specification as a definition for Table 2 wherein it refers to specific experiments performed using RBL-2H3 wherein specific mediators were released. It is not defined as a definition of "high secretor" or used in the context of any mediator or used in the context of cells other than RBL-2H3. There is no written description of the scope of the claimed invention in the specification as originally filed (the claimed invention constitutes new matter).

Applicant has not addressed this rejection in the instant amendment.

8. No claim is allowed.

9. Papers related to this application may be submitted to Group 1600 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). Papers should be faxed to Group 1600 at (703) 308-4242.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ron Schwadron whose telephone number is (703) 308-4680. The examiner can normally be reached Monday through Thursday from 7:30 to 6:00. A message may be left on the examiners voice mail service. If attempts to reach the examiner by telephone are

unsuccessful, the examiner's supervisor, Ms. Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Group 1600 receptionist whose telephone number is (703) 308-0196.

RONALD B. SCHWADRON
PRIMARY EXAMINER
GROUP ~~1800~~ 1600

Ron Schwadron, Ph.D.
Primary Examiner
Art Unit 1644
November 1, 2000